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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,539	01/14/2005	Shusaku Shibasaki	OT-5055	1524

7590 12/01/2009

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EXAMINER	
KRUER, STEFAN	

ART UNIT	PAPER NUMBER
3654	

MAIL DATE	DELIVERY MODE
12/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,539	SHIBASAKI, SHUSAKU	
	Examiner	Art Unit	
	Stefan Kruer	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *BPAI Decision dated 21 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Re-opening upon Appeal

Pursuant to the Decision on Appeal of 21 September 2009 to reverse the rejections of all of the claims on appeal, the finality of the rejection of the office action mailed 18 January 2007 has been withdrawn and the claims are herein rejected over newly cited prior art of record

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 6 and 8 - 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fry (835,157) in view of Wilson (1,751,261).

Re: **Claims 1 - 2**, Fry discloses a buffer (11, Fig. 2) for an elevator system, the buffer comprising:

- a conical coil spring,
- wherein the buffer is configured to be disposed at one end (7) of a hoist-way of the elevator system for contacting a vertically moving member (5) of said elevator system in the event of an abnormal, overrun,
- wherein the conical coil spring includes a spiral, coil element that comprises a series of coils,
- wherein a radius of the spiral coil element decreases along an axis of the conical coil spring; however,

Fry is silent with respect to the coils of the spiral coil spring, when said spring is fully compressed, are configured to be arranged in a substantially planar configuration,

and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil.

Attention is directed to Wilson who teaches his coil spring (Fig.'s 1 – 3) comprising coils (1 – 5) which when fully compressed, are configured to be arranged in a substantially planar configuration (Fig. 3, Page 2, L. 1 – 11 & L. 80 – 88), and wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil, whereby "... the spring will react in a truly perpendicular relation with respect to said [end of the hoistway and vertically moving member] and there will be no tendency whatsoever for the spring to tilt or creep laterally" (Pg. 2, L. 11 - 17).

It would have been obvious to one of ordinary skill in the art to modify the reference of Fry with the teaching of Wilson to utilize a conical coil spring as a buffer in an elevator system, wherein said coil spring is arranged to by substantially planar when fully compressed and having a uniform thickness between its outermost- and innermost coil, to promote a truly perpendicular reaction force along an axis of said spring without causing any damage or plastic strain to said coils of said spring when compressed or incurring lateral tilting or creep of said coils, for optimized, repeatable (energy absorbing/releasing) performance and enhanced service life of said spring, as well as maintaining vertical motion of said moving member in one plane.

Re: **Claim 3**, Fry discloses wherein a cross-section of the coil element is circular.

Re: **Claim 4**, Fry discloses wherein a cross-section of tile coil element is arcuate.

Re: **Claim 5**, Fry is silent with respect to wherein a transverse coil pitch of the coil element is constant.

Attention is directed to Wilson who teaches his coil spring who teaches said spring having a constant transverse coil pitch wherein said coil spring compresses uniformly to one substantially planar configuration as well as adjacent coils of said spring, when compressed, are free of contact.

It would have been obvious to one of ordinary skill in the art to modify the reference of Fry with the teaching of Wilson to utilize a coil spring having a constant

transverse coil pitch to promote a repeatable, maximized, uniform reaction force along a central axis of said spring while minimizing potential deformity of said spring.

Re: **Claim 6**, Fry discloses wherein the vertically moving element is an elevator car.

Re: **Claim 8**, Fry discloses wherein a thickness the innermost coil radially varies so as to create a substantially flat contact surface (Fig. 4).

Re: **Claim 9**, Fry discloses wherein a thickness the outermost coil radially varies so as to create a substantially flat contact surface (Fig. 4).

Re: **Claim 10**, Fry discloses wherein a thickness the innermost coil radially varies so as to create a substantially flat contact surface (Fig. 4).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fry in view of Wilson, as applied to Claim 1, and in further view of Hongo (5,370,207).

Though Fry discloses counterweights (15), Fry is silent with respect to his vertically moving element that contacts his buffer is a counterweight.

Wilson is silent with respect to an elevator system.

Attention is directed to Hongo who reviews buffers as known in the art and his vertically moving element that contacts his buffer is a counterweight (Fig. 1, Col. 1, L. 30 – 40) as known in the art.

It would have been obvious to one of ordinary skill in the art to modify the invention of Fry and Wilson with the teaching of Hongo to position a buffer of Wilson beneath a counterweight of Fry as taught by Hongo to provide an energy-absorbing/releasing bearing surface for said counterweight when said counterweight is positioned in a lowermost position of a hoistway to facilitate lowering of an elevator car/upward movement of a counterweight.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kessenich (2,161,820), Nakanishi (5,300,737) and Miller et al

(5,899,300) are cited for reference of a inner collapsing, coiled spring, shock absorbing element that absorbs energy upon extension from its innermost- to its outermost coil; an elevator system with elevator car and counterweight, wherein a buffer comprising a coil spring is mounted in a bottom of a hoistway for contacting said counterweight; and an elevator system with elevator car and counterweight, wherein a buffer is mounted in a bottom of a hoistway for contacting a respective elevator car and counterweight, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen, can be reached on 571.272.6952. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/
Examiner, Art Unit 3654
20 November 2009

/John Q. Nguyen/
Supervisory Patent Examiner, Art Unit 3654